

CLAIMS

1 1. A variable-assist power steering apparatus for a vehicle driven by a human over a
2 surface upon which the vehicle rests, the vehicle having a steering wheel that can be
3 gripped by human hands, at least one steerable wheel contacting the surface upon which
4 the vehicle rests and a power assist device that is drivingly linked to said at least one
5 steerable wheel and connected to the steering wheel for assisting the steering of said at
6 least one wheel, the apparatus comprising:

7 a) at least one sensor mounted to the steering wheel for detecting a grip pressure
8 applied to the steering wheel by human hands and producing a signal that is a
9 function of grip pressure; and
10 b) a computer connected to said at least one sensor and the power assist device for
11 controlling the power assist device and varying the amount of assist provided to
12 said at least one steerable wheel as a function of grip pressure.

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1 2. The apparatus in accordance with claim 1, wherein said at least one sensor further
2 comprises a plurality of sensors mounted to at least one hand-grippable region of the
3 steering wheel, and wherein the plurality of sensors is connected to the computer.

1 3. The apparatus in accordance with claim 2, wherein the sensors are electromechanical
2 transducers mounted in the steering wheel.

1 4. The apparatus in accordance with claim 3, wherein the amount of assist provided to
2 said at least one steerable wheel is varied as a function of grip pressure and at least one
3 other parameter.

1 5. A variable-assist power steering apparatus for a vehicle driven by a human over a
2 surface upon which the vehicle rests, the vehicle having a steering wheel that can be
3 gripped by human hands, a pair of steerable wheels contacting the surface upon which the
4 vehicle rests and a power assist device that is drivingly linked to the pair of steerable
5 wheels and connected to the steering wheel, the apparatus comprising:

6 a) a plurality of sensors mounted to a hand-grippable region of the steering wheel for
7 detecting a grip pressure applied to the steering wheel by human hands and
8 producing a signal that is a function of grip pressure; and
9 b) a computer connected to the sensors and the power assist device for controlling
10 the power assist device and varying the amount of assist provided to the pair of
11 wheels as a function of grip pressure.

1 6. A variable-assist power steering apparatus for a vehicle driven by a human over a
2 surface upon which the vehicle rests, the vehicle having a steering wheel that can be

3 gripped by human hands, at least one steerable wheel contacting the surface upon which
4 the vehicle rests and a power assist device that is drivingly linked to said at least one
5 steerable wheel and connected to the steering wheel for assisting the steering of said at
6 least one wheel, the apparatus comprising:

7 a) means mounted to the steering wheel for detecting a grip pressure applied to the
8 steering wheel by human hands and producing a signal that is a function of grip
9 pressure; and

10 b) a computer connected to said means and the power assist device for controlling
11 the power assist device and varying the amount of assist provided to said at least
12 one steerable wheel as a function of grip pressure.

1 7. A variable-assist power steering apparatus for a vehicle driven by a human over a
2 surface upon which the vehicle rests, the vehicle having a steering wheel that is gripped
3 by human hands, at least one steerable wheel contacting the surface upon which the
4 vehicle rests and a power assist device that is drivingly linked to said at least one
5 steerable wheel and connected to the steering wheel and is thereby assisting the steering
6 of said at least one wheel, the apparatus comprising:

7 a) at least one sensor mounted to the steering wheel, the sensor detecting a grip
8 pressure applied to the steering wheel by human hands and producing a signal that
9 is a function of grip pressure; and

10 b) a computer connected to said at least one sensor and the power assist device, the
11 computer controlling the power assist device and varying the amount of assist
12 provided to said at least one steerable wheel as a function of grip pressure.